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From: Tina M. Kohout-Paralegal
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Date: 2/11/04
Re: 303.610US1

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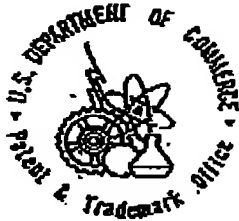
Ms. Robertson - Per your conversation with David Cochran, attached is a copy of the faxed office Action, dated October 22, 2003, from Examiner Abraham. The first paragraph on page 4 of this transmission re-sets the response date. Please contact me if you need anything else.

-Tina Kohout

This transmission contains information that is confidential and/or legally privileged. It is intended for use only by the person to whom it is directed. If you have received this facsimile in error, please notify us by telephone immediately so that we can arrange for the return of the original documents to us. If you do NOT receive all of the pages, please telephone us in the U.S.A. at (612) 373-6900 or FAX us at (612) 339-3061.

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Technology Center 2800 Facsimile Transmission

Date:

10/22/03

To:

Mr. David Cochran
(Name)

(Company or Firm)

(Fax Number)

From:

Ex. Felsum Asrala
(Name)

(Fax Number)

(Telephone)

Number of pages 4 (including this page)

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of Technology Center 2800 at _____ as soon as possible

Office Action Summary	Application No. 09/382,524		Applicant(s) FARRAR, PAUL A.	
	Examiner Fetsum Abraham		Art Unit 2826	

- The MAILING DATE of this communication appears on the cover sheet with the correspondence address -

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on ____.

2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-3, 5-7, 10, 11 and 42-57 is/are pending in the application.

4a) Of the above claim(s) ____ is/are withdrawn from consideration.

5) ☐ Claim(s) ____ is/are allowed.

6) ☒ Claim(s) 1-3 and 5-7, 10, 11, 42-57 is/are rejected.

7) ☐ Claim(s) ____ is/are objected to.

8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) ____

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946) 5) ☐ Notice of Informal Patent Application (PTO-152)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 21. 6) ☐ Other:

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Claims rejection

A phone interview had been conducted on 10/22/03 between Mr. David R. Cochran and examiner Abraham on applicant's request of an action based on the reason that the office action of 8/9/02 did not reach the applicant. This action is forwarded to the applicant in light of the request. Their response date has been reset.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3,5-7,10,11,42-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Havemann et al (5,747,880).

As for claims 1,5 the patent discloses a wiring structure in the front page composed of wiring conductors (24) embedded by hydrophobic and porous aerogel materials (28) (see column 6 last paragraph) on a substrate. Although the prior art omits to specify whether the dielectric material is foamed or not, it would have been obvious to one skilled in the art to conclude the material as foamed since foamed materials are porous by character.

As for claim 2, layer thickness is subject to design choice that is a function of processing time, material, and desired support. Thus layer dimension is variable in the art with no patentable weight unless it is critical to the device associated with. In this particular case, the specification contains no disclosure of either the critical nature of the claimed arrangement or any unexpected results arising therefrom. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in a claim, the applicant must show that the chosen

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dimensions are critical. In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

As for claim 3, the dielectric material in the art has dielectric constant falling within the

As for claims 6,11 the expression cell size in the claims is not clear as to what it means. It is not clear whether the expression represents actual active cell size or the diameter of the pores in the claimed dielectric material. In light of understanding "cell size" as the pore dimension, the patent discloses the claimed dimension in claim 1.

As for claim 7, the structure in the patent is applicable to any conductor associated with semiconductor devices.

As for claim 10, one choice of dielectric material is a polymer of all types (see page 9, TABLE).

As for claims 42,43, the claimed conductor types are similar to the applicable conductors in the prior art (see the TABLE in column 9).

As for claims 46-49,51,56,57 the structure in the patent is a semiconductor device which is provided with a semiconductor substrate of any type (doped, undoped, epitaxial, etc). The term semiconductor also includes the materials in claim 52,53.

As for claims 50,54,55, the supporting layer (22) is an insulator. As for claims 54,55 insulating substrates or semiconductor substrates are common in the art.

Any inquiry concerning this communication should be directed to Fetsum Abraham at telephone number (703) 305,3793, or by E-mail at fetsum.abraham@uspto.gov.

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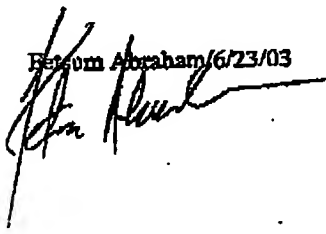
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Any inquiry of a general nature or relating to the status of this application should be directed to the *SPE of AU:2826* at (703)308-6601, or the *Group receptionist* at (703) 308-0956.

Re: Form Abraham/6/23/03



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Form 1449A/PTO
**INFORMATION DISCLOSURE
 STATEMENT BY APPLICANT**
 (Use as many sheets as necessary)

Under the Paperwork Reduction Act of 1995, no person is required to respond to a collection of information unless it displays a valid OMB control number.

Approved for use through 02/28/2005. OMB 0704-0187

Application Number	09/382524
Filing Date	August 25, 1999
First Named Inventor	Farrar, Paul
Group Art Unit	2826
Examiner Name	Abraham, Petsum

Sheet 1 of 1

Attorney Docket No: 303.610US1

US PATENT DOCUMENTS

Examiner Initials*	USP Document Number	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	Filing Date if Appropriate
PR	US-2001/0034117	10/25/2001	Eldridge, et al.	438	619	06/27/2001
	US-3,956,195	05/11/1976	Topchiashvili, Mikhail, et al.	252	511	02/21/1974
	US-4,368,350	01/11/1983	Perelman, Robert	174	102	05/28/1981
	US-4,599,136	07/08/1986	Araps, Constance J., et al.	156	643	10/03/1984
	US-5,137,780	08/11/1992	Nichols, Michael F., et al.	428	336	11/21/1989
	US-5,552,638	09/03/1996	O'Connor, Loretta J., et al.	257	759	12/05/1994
	US-5,804,807	09/08/1998	Hedrick, Jeffrey, et al.	521	64	10/16/1997
	US-5,994,777	11/30/1999	Farrar, P. A.	257	758	08/26/1998
	US-6,245,858	06/12/2001	Buynoski, M.	438	619	02/18/1999
	US-6,380,294	04/30/2002	Bahinec, Susan, et al.	524	440	10/15/1998
	US-6,503,818	01/07/2003	Jang, Syun-Ming	438	584	04/02/1999

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Foreign Document No	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	T
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OTHER DOCUMENTS - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No*	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), line of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number, publisher, city and/or country where published.
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NOTE: Initial information considered, whether or not change is in accordance with MPEP 908. Draw the search claims if not in accordance and not considered, include name of applicant, Applicant's unique, origin description number (optional) 2 Applicant is in place a checkmark.

Notice of References Cited	Application/Control No. 09/382,524	Applicant(s)/Patent Under Reexamination FARRAR, PAULA	
	Examiner Fetsum Abraham	Art Unit 2828	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US/747880	05-1998	Havemann et al	257
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Data, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
 Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

U.S. Patent and Trademark Office
 PTO-892 (Rev. 01-2001)

Notice of References Cited

Part of Paper No. 21